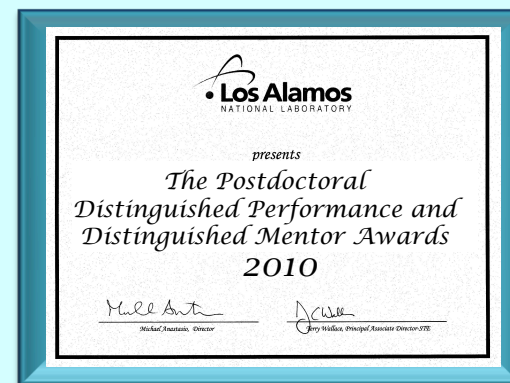


Presented by the STBPO-EPO Postdoc Program Office in  
conjunction with the Principal Associate Director for Science,  
Technology, and Engineering and the LANL Director's Office

*All photos courtesy of Richard Robinson, IRM-RMMSO*

2010  
Postdoctoral  
Distinguished  
Performance Awards  
and  
Distinguished  
Mentor Awards

April 12, 2011  
Fuller Lodge



## 2010 Postdoc Distinguished Award Winner



**Shadi Dayeh**, (MPA-CINT) a *Distinguished J. Robert Oppenheimer Postdoctoral Fellow*, was recognized for his outstanding contributions to the R&D community through his scientific accomplishments and creative ideas. He was nominated by his mentor, Tom Picraux. Dayeh used the vapor-liquid-solid method to develop the most complete treatment of size-dependent growth of germanium nanowires. This comprehensive study potentially settles the controversial area of the size-dependent growth rate of nanowires. Dayeh has also worked on hetero-structured nanowire growth and devices, and most notably uncovered issues surrounding the growth of core/shell germanium/silicon (Ge/Si) nanowires for field effect transistors that showed record on-current performance and utilized bandgap engineering in axial Ge/Si heterostructured nanowires for high on/off current switches. In addition, he has proposed a new research approach for neural probes that could open a new area of neuronal studies. Dayeh is the Principal Investigator on a Laboratory Directed Research and Development – Exploratory Research proposal on “High Density Neuronal Recording Using Nanowire Capacitor Sensors.” He came to LANL as a Director’s Postdoctoral Fellow after earning his Ph.D. in Electrical and Computer Engineering/ Electronic Materials and Devices from UC San Diego in 2008. Shadi received a Maitrise-en-Sciences from the Lebanese University, and a M.S. in Electrical Engineering/ Circuits and Devices from Southern Methodist University. Dayeh served as vice president and president of the Los Alamos Postdoc Association, and he initiated an annual Los Alamos Postdoc Research Day, in partnership with the Postdoc Program Office.

2010 Postdoc Distinguished Award Winner

## 2010 Distinguished Mentor Award



**James Werner** (MPA-CINT) was nominated by Hsin-Chih (Tim) Yeh. James provides excellent support and leadership to his postdocs and is genuinely concerned about providing a positive work environment. He makes it a priority to sit down with his postdocs and teach them things that they might not have experience in. He never hesitates to give a postdoc the recognition for their work. For example, recently the research his team was involved in received an R&D 100 award. Without hesitation, he assigned the postdoc to lead the application process for the award, thus recognizing the postdoc's major contribution to the research. He is actively involved in his postdoc's job search for their next appointment, and providing guidance regarding their future career opportunities.

## 2010 Distinguished Mentor Award

## 2010 Postdoc Distinguished Award Winner



**Cristiano Nisoli**, (T-4/T-CNLS) a *Director's Postdoctoral Fellow*, was cited for his substantial impact in fields ranging from disordered systems to biophysics and condensed matter. Avadh Saxena (T-4 Group Leader) nominated him. Nisoli has made seminal contributions to the field of frustration, disorder, and thermodynamics out of equilibrium. He has introduced (in collaboration with Professor Schiffer's group at Penn State) and explained theoretically, a novel magnetic meta-material, now widely known as "artificial spin ice." His research in quasi-one-dimensional systems has led him to the exploration of pattern formations reminiscent of symmetries seen in flowers, leaves, or cacti; to the discovery of a new regime of topological excitations, which he termed "Dynamical Phyllotaxis;" and to the prediction of thermally induced failures in a variety of quasi-one-dimensional systems including nanotubes, nanowires, and DNA. Recently he has focused on the thermomechanics of DNA. Nisoli's work on artificial spin ice, recognized by an Outstanding Poster Award at the Postdoc Research Day, has been featured on the cover of *Nature*, in many *Nature* and *Nature Physics* editorials, and as a new field of research. His work on Dynamical Phyllotaxis was highlighted in a column of the American Mathematical Society, in *Nature Materials*, as well as on many scientific websites. His research on thermally activated failures received Honorable Mention for the 2010 Leon Heller Postdoc Publication Prize in Theoretical Physics. Nisoli received a Laurea in Fisica in 2000 at Università degli Studi di Milano, Italy and a Ph.D. in Physics from Pennsylvania State University.

## 2010 Postdoc Distinguished Award Winner

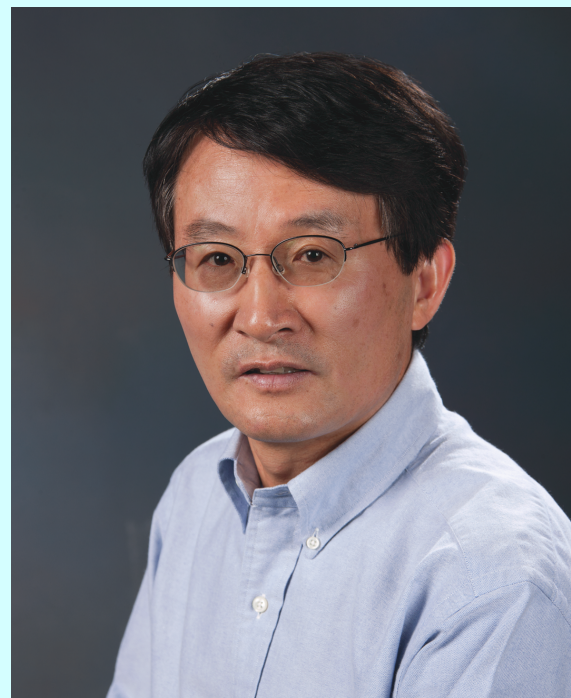
## PDPA Honorable Mention



**Juan Duque** (C-PCS) was a Director's Funded Fellow at the time he was nominated by Stephen Doorn. He was recognized for research that could have significant impact the field of carbon nanotubes. Juan's work on the violation of the Condon approximation in semiconducting carbon nanotubes represents a comprehensive experimental and theoretical demonstration of the failure in carbon nanotubes of one of the fundamental principles used for understanding quantum mechanical behavior of molecular and condensed-matter systems. The Condon approximation states that the electronic transition moment dipole is independent of nuclear coordinates and in a classical sense corresponds to a vertical transition with no motion of the nuclear coordinates during optical excitation. A paper describing the results is currently under review at *Nature*. Beyond the Raman work, Juan is demonstrating the depth of his expertise through his development of the first ever highly fluorescent sol-gel and aero-gel matrices suitable for nanotube optical applications. Success in this endeavor has depended on Juan's ability to generate unique composite materials and his in-depth understanding of how interfacial behaviors may be modified to maximize the nanotube photoluminescence response. Juan received his Ph.D. in Chemical Engineering from Rice University. He is now a Staff Scientist in C-PCS.

## PDPA Honorable Mention

## 2010 Distinguished Mentor Award



**Qianxi Jia** (MPA-CINT) was nominated by postdoctoral researchers Guifu Zou, Yingying Zhang, Mujin Zhuo, and Li Yan, who cited him for providing scientific guidance as well as the knowledge and skills to handle situations that cannot be learned by working in a laboratory. According to his nominators, Jia mentors his postdocs with their career goals in mind, ensuring that their research is closely aligned with these goals. Jia encourages his postdocs to publish in the highest impact scientific journals and works with them to garner international conference speaker invitations. He also inspires postdocs to collaborate with colleagues to broaden their background and skills.

## 2010 Distinguished Mentor Award



## 2010 Distinguished Mentor Award



**Tom Intrator** (P-24) was nominated by postdoctoral researcher Jason Sears, who described him as deeply passionate about preparing his postdocs for productive and rewarding careers as scientists. For example, Intrator facilitates postdoc attendance at conferences and workshops and is extremely proactive in identifying their next career opportunities, often personally making connections with future employers. According to Sears, Intrator has an unwavering commitment to his postdocs and encourages their independence while being available for consultation and feedback.

## 2010 Distinguished Mentor Award

## PDPA Honorable Mention



**Katharine Page** (LANSCE-LC) was a *Director's Funded Fellow* at the time she was nominated by Thomas Proffen. Katherine is an expert in advanced structural characterization of complex materials using total scattering. Her research is related to phase change materials used e.g. in optical storage media. However, her distinguished performance reaches far beyond 'knowing her science;' she has been the driving force behind most of the successes of the total scattering group in 2010, especially with respect to growing new fruitful collaborations for the Lujan Center user program and promoting the total scattering technique as well as being central to recent method developments such as full-particle refinements of nanomaterials based on total scattering data or the treatment of hydrogen background contributions to neutron scattering data. In addition, Katharine was active in the Los Alamos Postdoc Association serving as president and vice president in 2010. She also managed to obtain a small grant for outreach materials to bring structural science to school children and simply is the best role model for young female scientists and young scientists in general. Page received a Ph.D. in Materials from UC Santa Barbara. She is now a Staff Scientist in LANSCE-12.

## PDPA Honorable Mention

Established in 2001, the Postdoc Distinguished Performance Award (PDPA) recognizes outstanding and unique contributions by Laboratory postdocs, which results in a positive and significant impact on the Laboratory's scientific efforts and status in the scientific community. These awards also recognize outstanding creativity, innovation, or dedication and level of performance substantially beyond that which would normally be expected.

#### **FY09**

##### **Individual**

Stosh Kozimor, C-IIAC  
Jian Wang, MST-8

##### **Team**

Suzanne "Zoe" Fisher, B-8  
Andrey Kovalevsky, B-8

#### **FY08**

##### **Individual**

Chris Graves, MPA-10

#### **FY07**

##### **Individual**

Michael Demkowicz, MST-8  
Ki-Yong Kim, MPA-CINT  
Pinaki Sengupta,  
MPA-NHMFL and T-11

#### **FY06**

##### **Individual**

Tuson Park, MPA-10  
Rolando Somma, P-21 / T-13

#### **FY05**

##### **Individual**

David Chavez, DX-2  
Richard Schaller, C-PCS  
Lin Shao, MPA-CINT

#### **FY04**

##### **Individual**

Gary Baker, C-SIC  
Han Htoon, C-PCS

#### **FY03**

##### **Individual**

Mark Boulay, P-23  
Jian Xin Zhu, T-11

##### **Team**

Matt Hastings, T-CNLS  
Charles Reichhart, T-CNLS

#### **FY02**

##### **Individual**

My Hang Huynh, C-SIC  
Sergey Trudolyubov, NIS-2

#### **FY01**

##### **Individual**

Jackie Kiplinger, C-SIC  
Eddy Timmermans, T-4

##### **Team**

Jennifer Hollingsworth, C-PCS  
Alexander Mikhailovski, C-PCS

## **Distinguished Mentor Award 2010**

2010 is the inaugural year for the  
Postdoctoral Distinguished Mentor  
Award.

This award recognizes the positive  
contributions that a mentor makes during  
a postdoctoral researcher's appointment.  
The mentor's accomplishments often make  
a difference in the postdoc's life, going the  
extra mile beyond science, such as career  
development and making a positive impact  
on a number of postdocs.

The Selection Committee was greatly  
impressed with the work represented by all  
of the mentor nominees! A big thank you  
to all postdoc mentors!